

# The ChIP-Chip Technology

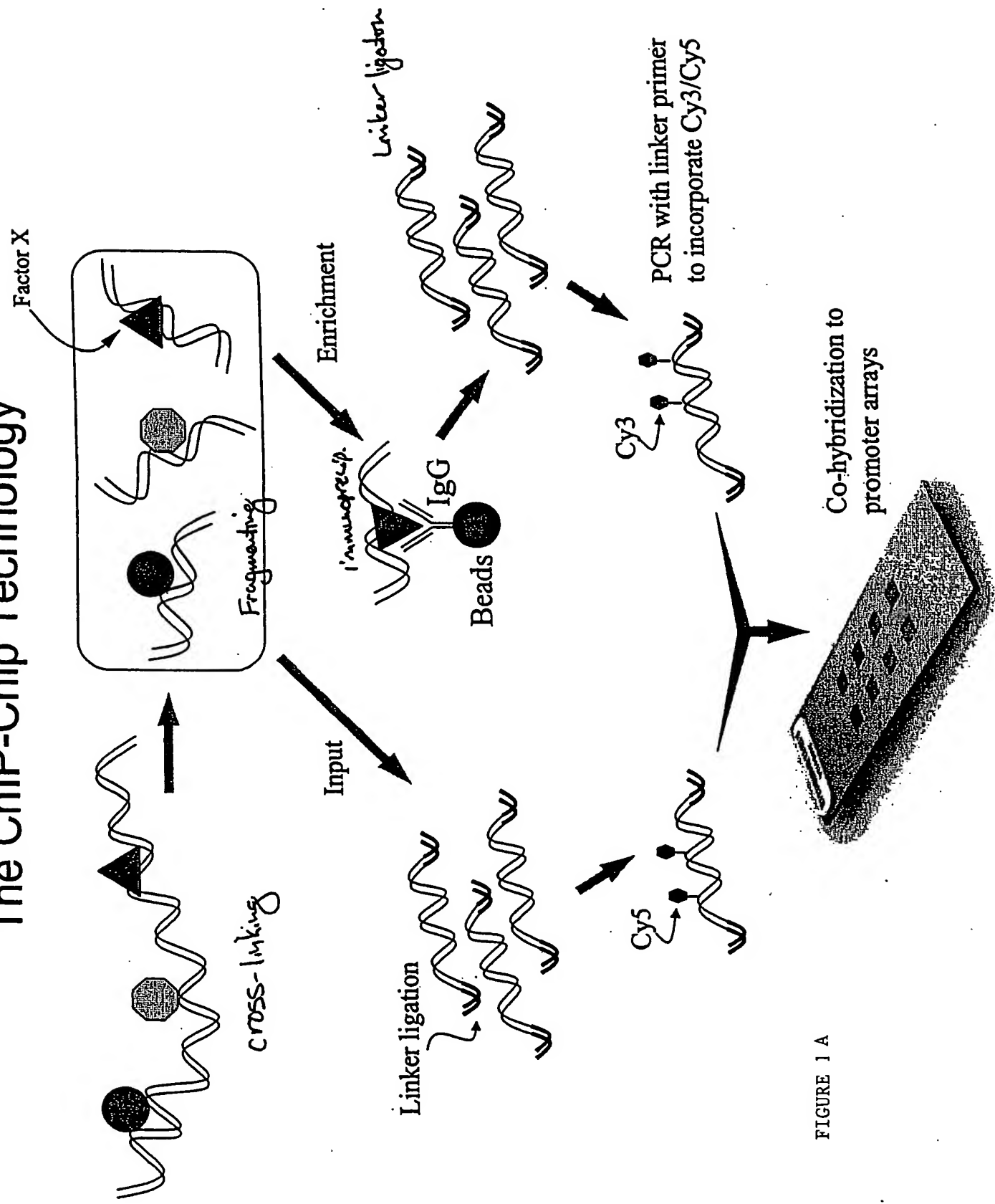


FIGURE 1 A

# Challenges in Genome-Wide Location Analysis

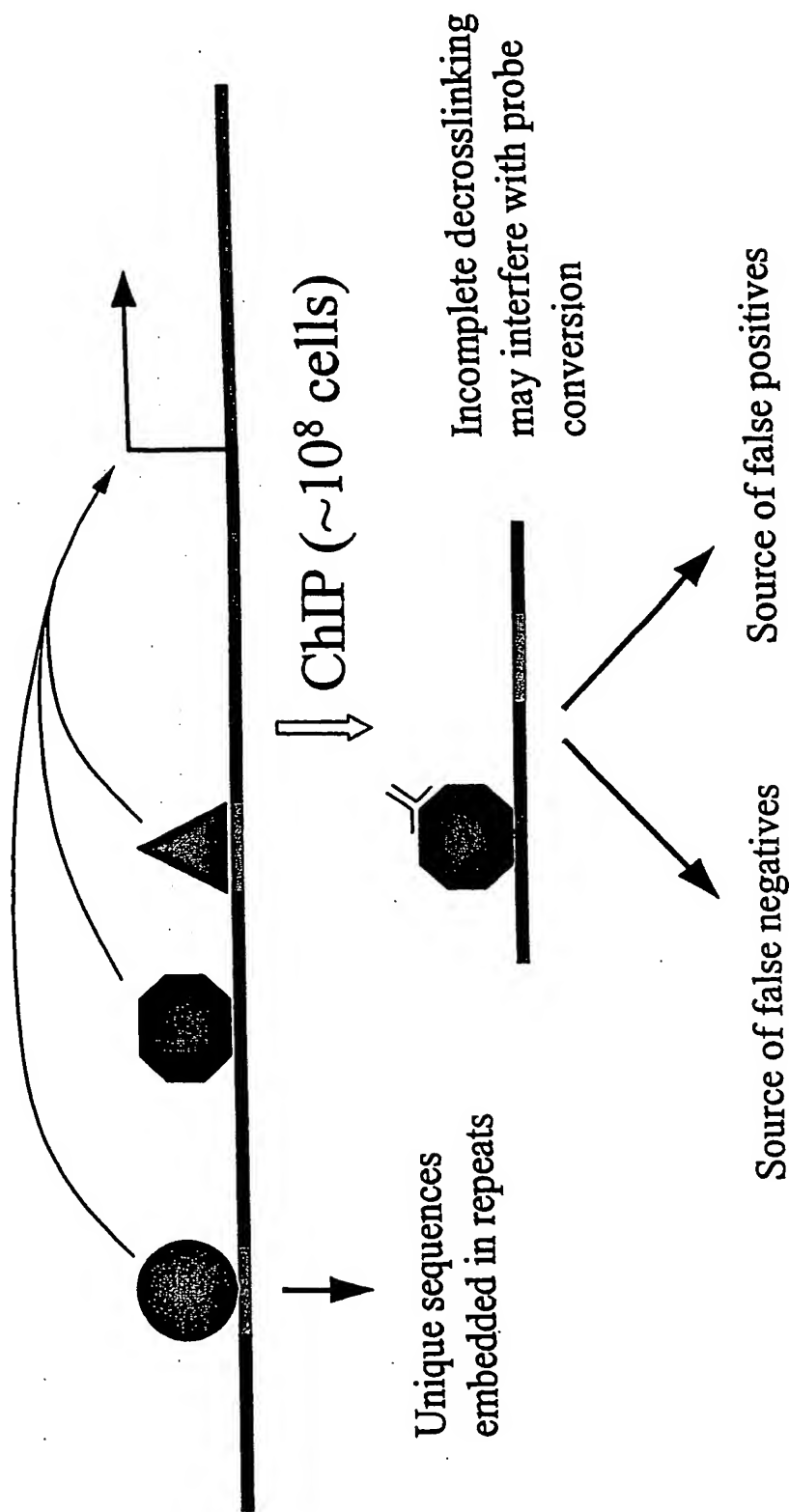


FIGURE1B

1. IP cond. 1 vs. cond. 2
2. IP+Ag vs. -Ag
3. Total vs. IP

# The ChIP-DASL Technology

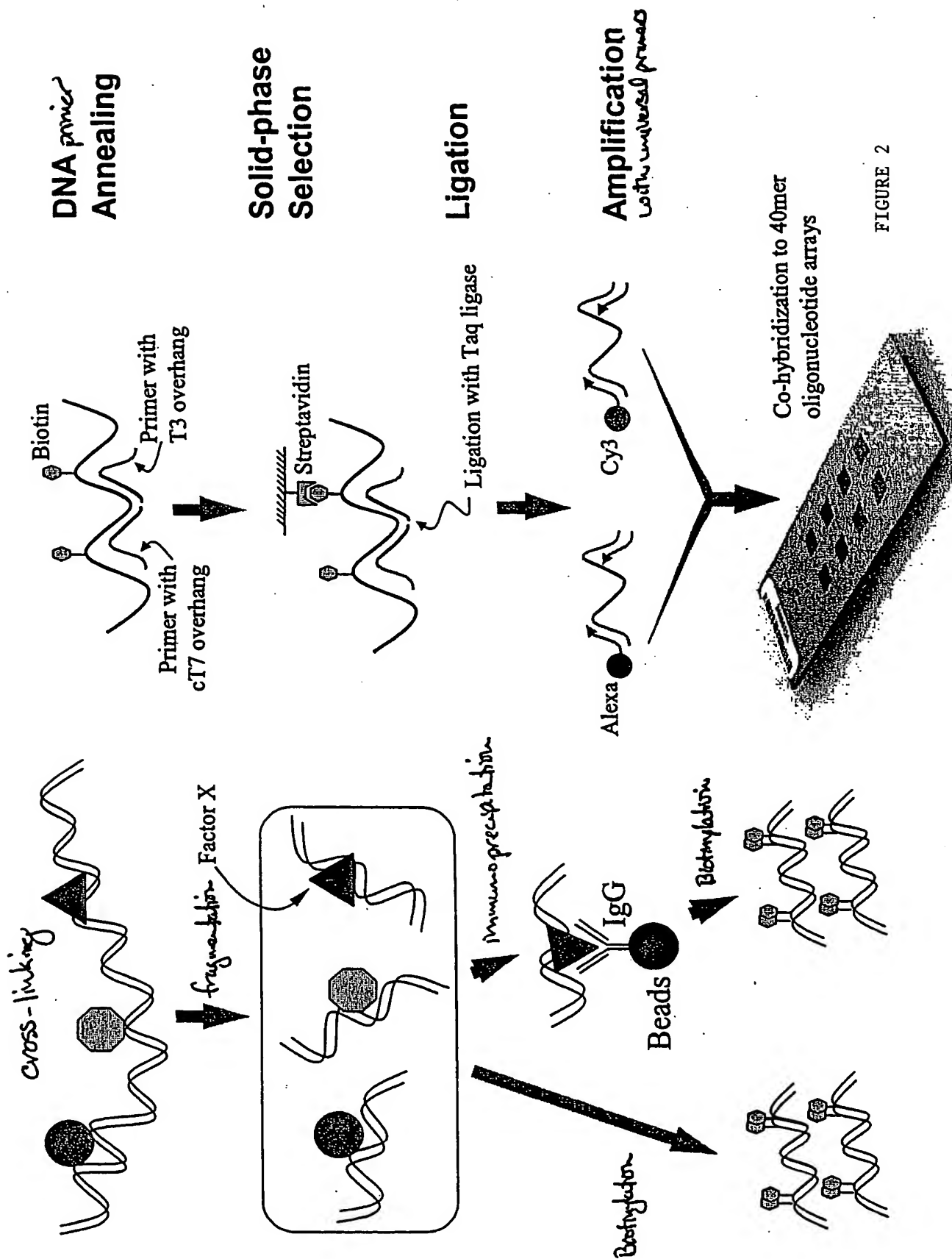


FIGURE 2

# Specificity and Sensitivity of DASL

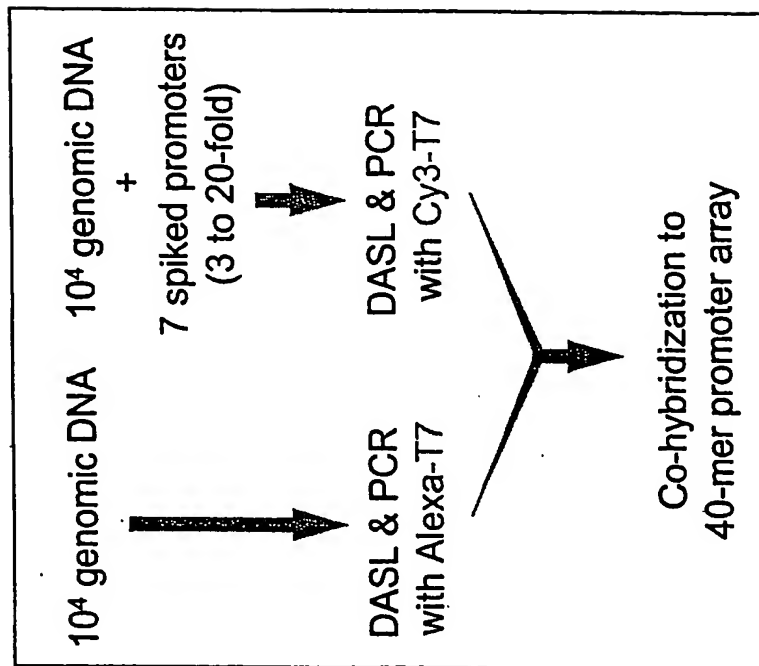
Reaction #	1	2	3	4	5	6	7	8	9	10	
Genomic DNA		10 <sup>5</sup>	10 <sup>5</sup>	10 <sup>5</sup>	10 <sup>5</sup>	10 <sup>5</sup>				10 <sup>5</sup>	
Spiked Plasmid DNA			10 <sup>2</sup>	10 <sup>3</sup>	10 <sup>4</sup>	10 <sup>5</sup>	10 <sup>5</sup>		10 <sup>5</sup>		
Oligo Pool for Genomic DNA								+	+	+	
Oligo Pool for Spiked DNA	+	+	+	+	+	+	+				



FIGURE 3A

# Characterization of the ChIP-DASL Technology by using Spiking Controls

## Spiking Strategy



## Array Result

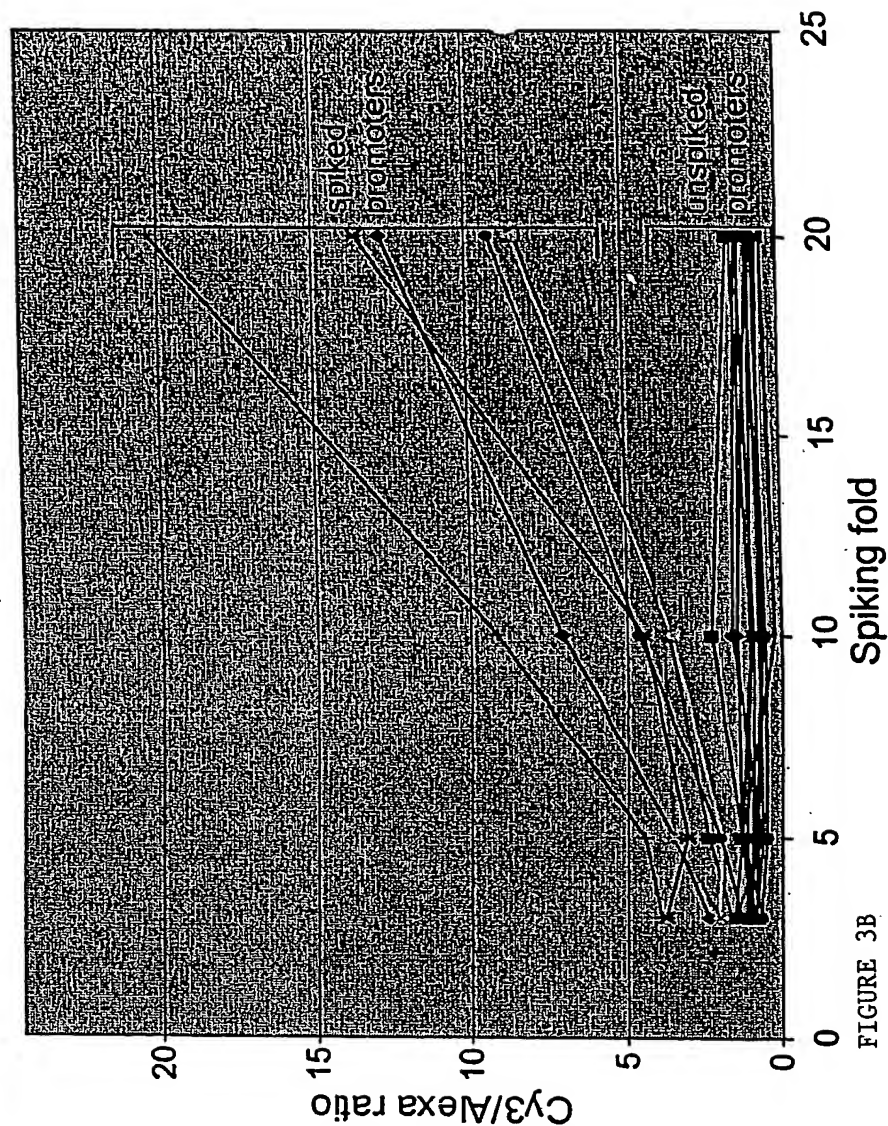


FIGURE 3B

$$\text{In}^- \text{In}^+ \text{En}^- \text{En}^+$$


Ref	Ship Name	Class	Brand	Manufacturer	Dimensions (mm)	Prod. Country	Serial No.
10720	10720	PC-7	1501720	3058 698	4221 2641	8.212	3.0172000
10719	10719	PC-7	1501719	3058 698	4221 2641	8.212	3.0171900
10718	10718	PC-7	1501718	3058 698	4221 2641	8.212	3.0171800
10717	10717	PC-7	1501717	3058 698	4221 2641	8.212	3.0171700
10716	10716	PC-7	1501716	3058 698	4221 2641	8.212	3.0171600
10715	10715	PC-7	1501715	3058 698	4221 2641	8.212	3.0171500
10714	10714	PC-7	1501714	3058 698	4221 2641	8.212	3.0171400
10713	10713	PC-7	1501713	3058 698	4221 2641	8.212	3.0171300
10712	10712	PC-7	1501712	3058 698	4221 2641	8.212	3.0171200
10711	10711	PC-7	1501711	3058 698	4221 2641	8.212	3.0171100
10710	10710	PC-7	1501710	3058 698	4221 2641	8.212	3.0171000
10709	10709	PC-7	1501709	3058 698	4221 2641	8.212	3.0170900
10708	10708	PC-7	1501708	3058 698	4221 2641	8.212	3.0170800
10707	10707	PC-7	1501707	3058 698	4221 2641	8.212	3.0170700
10706	10706	PC-7	1501706	3058 698	4221 2641	8.212	3.0170600
10705	10705	PC-7	1501705	3058 698	4221 2641	8.212	3.0170500
10704	10704	PC-7	1501704	3058 698	4221 2641	8.212	3.0170400
10703	10703	PC-7	1501703	3058 698	4221 2641	8.212	3.0170300
10702	10702	PC-7	1501702	3058 698	4221 2641	8.212	3.0170200
10701	10701	PC-7	1501701	3058 698	4221 2641	8.212	3.0170100
10700	10700	PC-7	1501700	3058 698	4221 2641	8.212	3.0170000
10699	10699	PC-7	1501699	3058 698	4221 2641	8.212	3.0169900
10698	10698	PC-7	1501698	3058 698	4221 2641	8.212	3.0169800
10697	10697	PC-7	1501697	3058 698	4221 2641	8.212	3.0169700
10696	10696	PC-7	1501696	3058 698	4221 2641	8.212	3.0169600
10695	10695	PC-7	1501695	3058 698	4221 2641	8.212	3.0169500
10694	10694	PC-7	1501694	3058 698	4221 2641	8.212	3.0169400
10693	10693	PC-7	1501693	3058 698	4221 2641	8.212	3.0169300
10692	10692	PC-7	1501692	3058 698	4221 2641	8.212	3.0169200
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10690	10690	PC-7	1501690	3058 698	4221 2641	8.212	3.0169000
10689	10689	PC-7	1501689	3058 698	4221 2641	8.212	3.0168900
10688	10688	PC-7	1501688	3058 698	4221 2641	8.212	3.0168800
10687	10687	PC-7	1501687	3058 698	4221 2641	8.212	3.0168700
10686	10686	PC-7	1501686	3058 698	4221 2641	8.212	3.0168600
10685	10685	PC-7	1501685	3058 698	4221 2641	8.212	3.0168500
10684	10684	PC-7	1501684	3058 698	4221 2641	8.212	3.0168400
10683	10683	PC-7	1501683	3058 698	4221 2641	8.212	

Delta: 0.92539

# 5-fold Spiking on the 2K Human Promoter Array

Title: GENOME MAPPING OF FUNCTIONAL DNA  
ELEMENTS AND CELLULAR PROTEINS  
Inventor: Xiang-Dong FU, et al.  
Filed: December 21, 2005  
Express Mailing Label No. EV 793 689 187 US  
Attorney Docket No. 034123-195  
Sheet 7 of 11

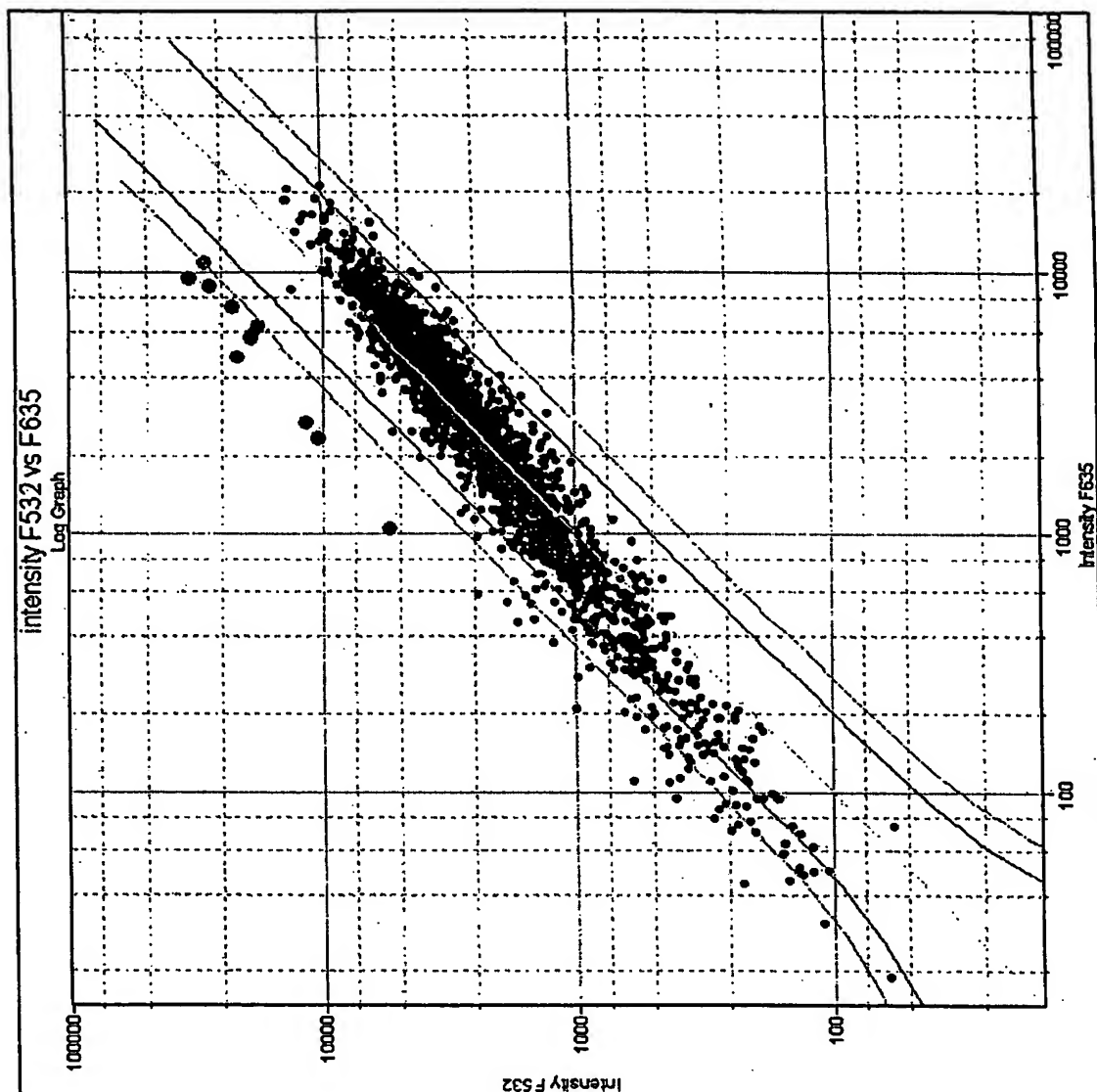
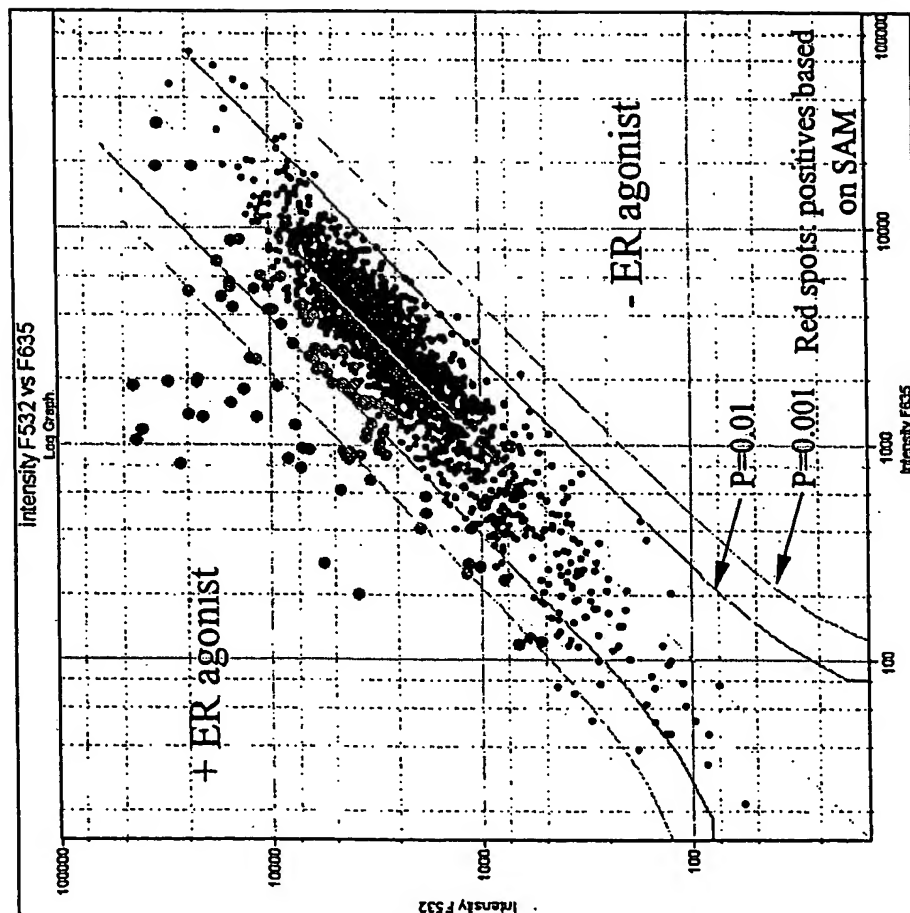


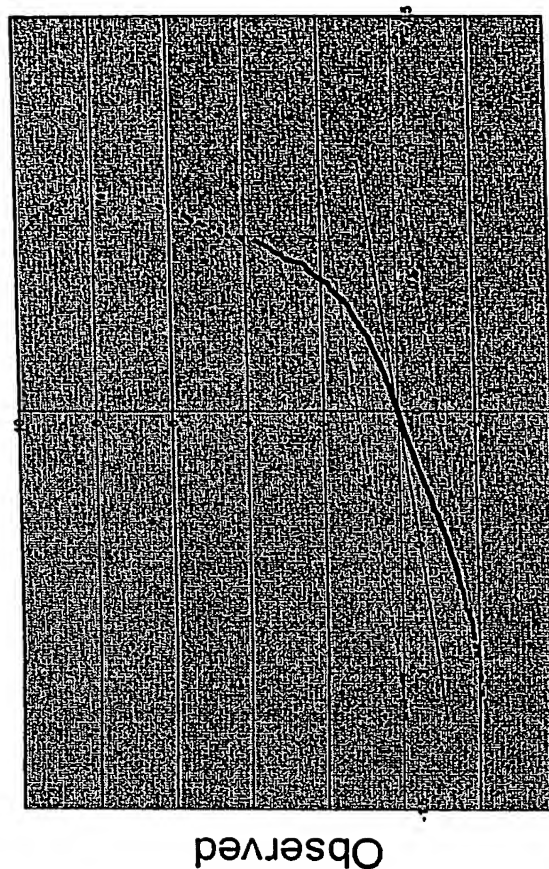
FIGURE 5

# Identification of Estrogen Receptor Target Genes by DASL

Single array error model



SAM analysis (3X)



Significant: 94

Median # false significant: 0.39842

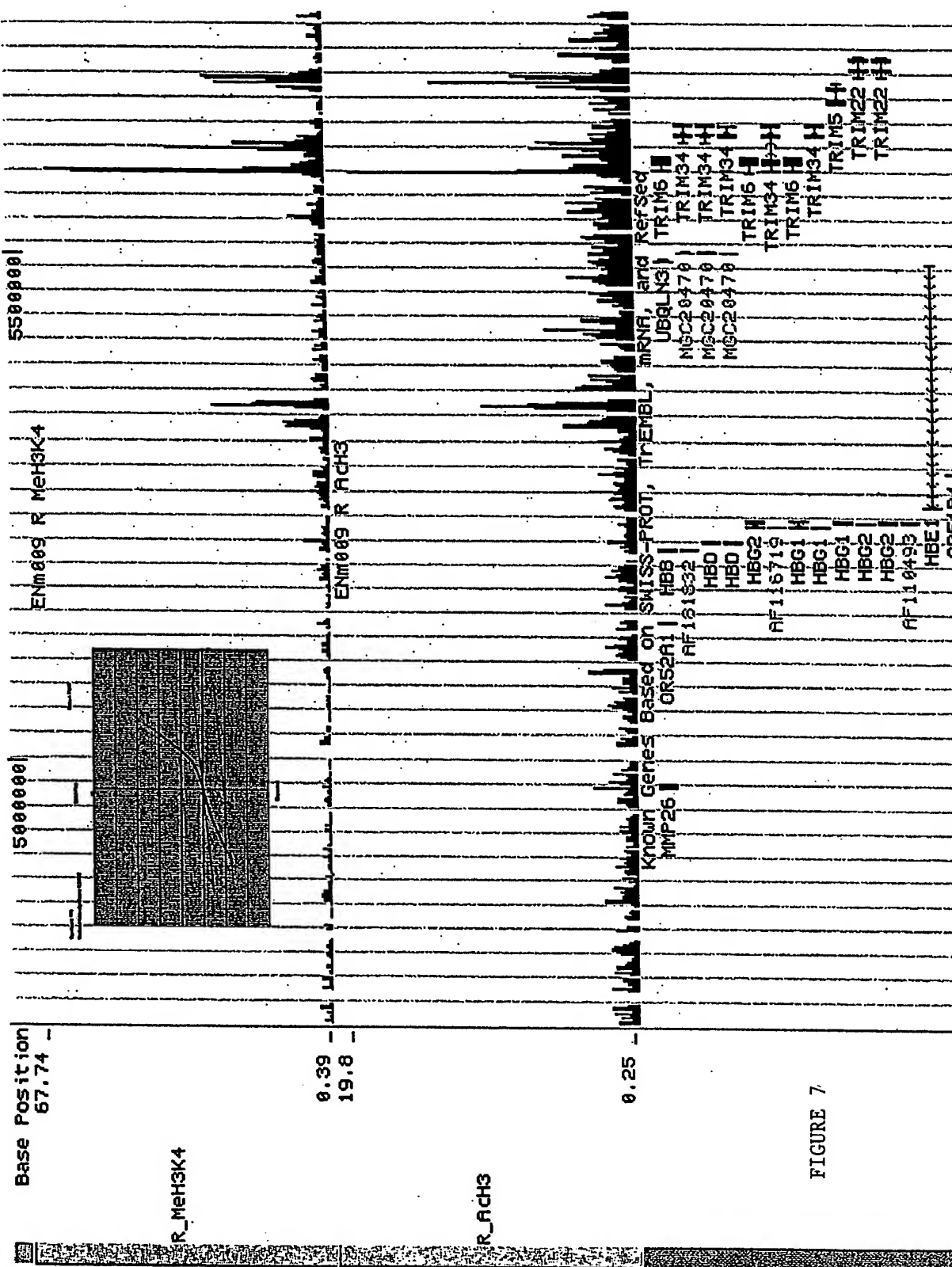
Delta: 1.05853

FIGURE 6



# Mapping Transcription Units by Tiling on the $\beta$ -globin Locus

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Filed: December 21, 2005  
Express Mailing Label No. EV 793 689 187 US  
Attorney Docket No. 034123-195  
Sheet 9 of 11



# Mapping Transcription Units by Tiling on the $\beta$ -globin Locus

Project goal: Mapping functional DNA elements in the ENCODE region

Collaborator: Bing Ren (UCSD)

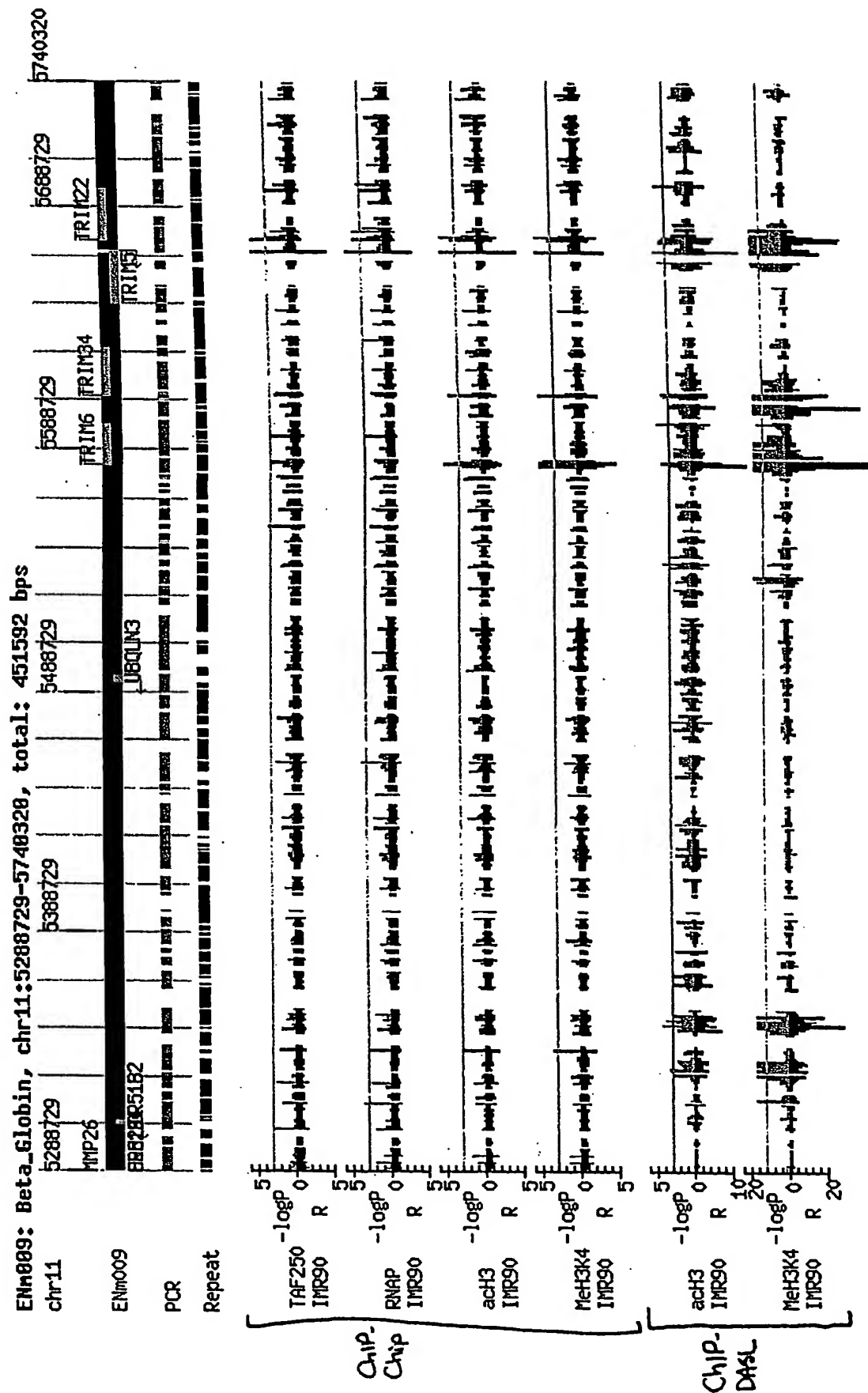


FIGURE 8

# Additional Applications of DASL

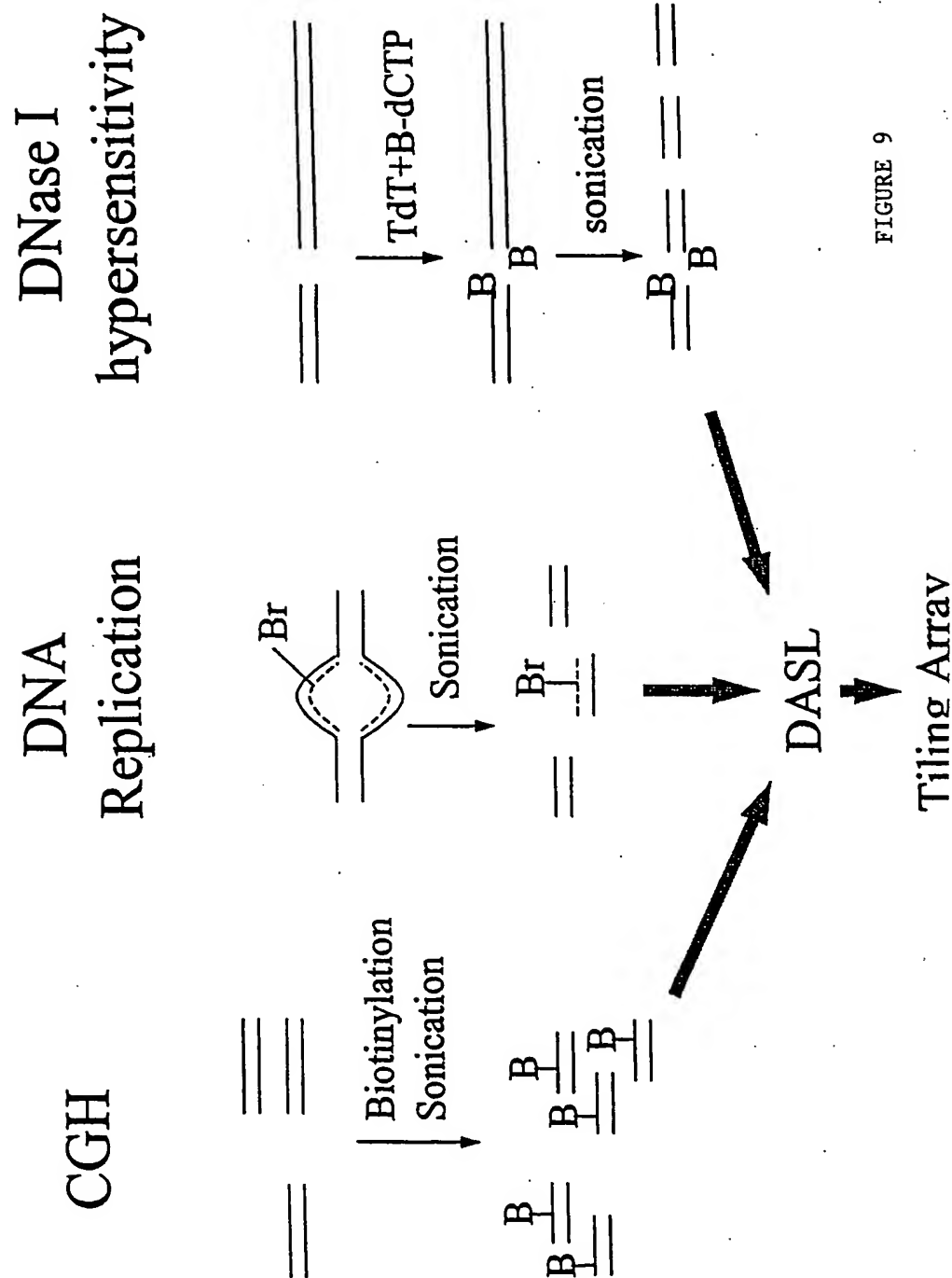


FIGURE 9